

YEROFEEV, B.V.; CHIRKO, A.I.; TERENT'YEVA, Yu.N.

Kinetics of liquid-phase autoxidation of phenylcyclohexane.  
Dokl. AN BSSR 3 no.6:244-248 Je '59. (MIRA 12:10)  
(Hexane) (Oxidation)

TERENTYEVA, Z. A., DOMAN, N. G., SHKOLNIK, R. YA. (USSR)

Mode of Assimilation of Carbon during Photosynthesis.

report presented at the 5th Int'l.  
Biochemistry Congress, Moscow, 10-16 Aug. 1961

DOMAN, N.G.; KRASNOVSKIY, A.A.; ROMANOVA, A.K.; VOROB'YEVA, L.M.; PAKSHINA, Ye.  
V.; TERENT'YEVA, Z.A.

Chlorophyll synthesis and carbon dioxide fixation in etiolated barley  
seedlings during exposure to light. Fiziol. rast. 8 no.1:3-12 '61.  
(MIRA 14:3)

I. A.N. Bakh Institute of Biochemistry, U.S.S.R. Academy of Sciences,  
Moscow.

(Chlorophyll) (Photosynthesis)

ROMANOVA, A.K.; DOMAN, N.G.; TERENT'YEVA, Z.A.

Effect of the age of the culture and composition of the nutritive medium on the products of  $C^{14}O_2$  assimilation by hydrogen bacteria. Dokl.AN SSSR 138 no.1:231-234 My-Je '61. (MIRA 14:4)

1. Institut biokhimii im. A.N.Bakha AN SSSR. Predstavleno akademikom A.I.Oparinym.

(BACTERIA, HYDROGEN)

(BACTERIOLOGY--CULTURE AND CULTURE MEDIA)

(CARBON DIOXIDE)

DOMAN, N.G.; ROMANOVA, A.K.; TERENT'YEVA, Z.A.

Transformation of some volatile organic substances absorbed by leaves  
from the atmosphere. Dokl.AN SSSR 138 no.3:702-705 My '61.  
(MIRA 14:5)

1. Predstavleno akademikom A.L.Kursanovym.  
(Plants--Assimilation)

DOMAN, N.G.; ROMANOVA, A.K.; TERENT'YEVA, Z.A.

Pathway of carbon in chemosynthesis; nature of the early product of chemosynthesis in hydrogen bacteria. Dokl.AN SSSR 138 no.6:1456-1459 Je '61. (MIRA 14:6)

1. Institut biokhimii im. A.N.Bakha AN SSSR. Predstavleno akademikom A.N.Tereninym.

(BACTERIA, HYDROGEN) (BIOSYNTHESIS) (CARBON DIOXIDE)

DOMAN, N.G.; SHKOL'NIK, R.Ya.; TERENT'YEVA, Z.A.

Direct proof of the participation of phosphoglyceric acid in  
the reducing photosynthetic cycle of carbon. Dokl. AN SSSR  
156 no. 3:698-701 '64. (MIRA 17:5)

1. Institut biokhimii rasteniy im. A.N.Bakha AN SSSR. Pred-  
stavleno akademikom N.M.Siskyanom.

ACC NR: AP6036448

SOURCE CODE: UR/0370/66/000/006/0142/0145

AUTHORS: Gurin, V. N. (Leningrad); Obukhov, A. P. (Leningrad); Terent'yeva, Z. P. (Leningrad); Bashinskaya, I. R. (Leningrad)

ORG: none

TITLE: The existence of intermetallic compounds in the system Nb-Zn

SOURCE: AN SSSR. Izvestiya. Metally, no. 6, 1966, 142-145

TOPIC TAGS: niobium, zinc, intermetallic compound, x ray analysis, crystal lattice parameter

ABSTRACT: A new intermetallic compound of Nb and Zn was synthesized. The chemical composition, solubility in acids and bases at room temperature and elevated temperatures, and the lattice parameter of the compound were determined. The experimental results are summarized in graphs and tables (see Fig. 1). It was found that the compound had a stoichiometric composition of  $\text{NbZn}_{2.0 - 2.7}$  and a copper type structure. The lattice parameter of the face-centered cubic lattice was  $a = 3.9325 \text{ \AA}$ .

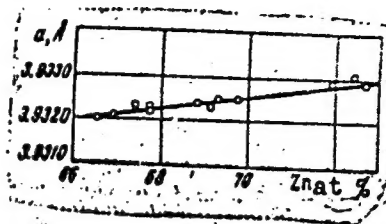
Card 1/2

UDC: 546.882'47:541.123.24



ACC NR: AP6036448

Fig. 1. Dependence of the lattice parameter of compound  $\text{NbZn}_{2.0-2.7}$  on the zinc content of the latter



Orig. art. has: 3 tables and 2 graphs.

SIB CODE: 11/ SUBM DATE: 13Sep64/ ORIG REF: 002/ OTH REF: 004

Card 2/2

S/032/62/028/007/006/011  
B104/B102

AUTHORS: Maslov, I. A., Obukhov, A. P., and Terent'yeva, Z. P.

TITLE: Investigation into the reproducibility of a method for quickly determining unbound silicon in refractory materials

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 7, 1962, 841 - 842

TEXT: In this method, which was proposed by T. Ya. Kosolapova and Ye. Ye. Kotlyar (Zavodskaya laboratoriya, XXIV, 12, 1442 (1958)), a sample of powdered refractory material weighing 0.2 - 1.0 g, with a grain size 5 - 200 $\mu$ , is dissolved in 60 - 80 ml of a 1, 2, or 3% alkali solution at about 100°C and then filtered. The solution is neutralized and the Si is determined by gravimetry. The reproducibility of the method was determined from the mean square error of a series of measurements:

$$S_x^2 = \frac{\sum_{i=1}^m \sum_{j=1}^{n_i} x_{ij}^2 - \sum_{i=1}^m \frac{x_i^2}{n_i}}{\sum_{i=1}^m n_i - m} \quad (1)$$

Card 1/2

Investigation into the...

S/032/62/028/007/006/011  
B104/B102

where  $S_x^2$  = mean square error,  $m$  = number of analyses,  $n_1$  = number of parallel determinations,  $x_{ij}$  = results of the analyses,  $X_1 = \sum_{j=1}^{n_1} x_{ij}$ . The error in reproducibility varies from 0.23% for 0.4% unbound Si to 0.63% for 80% unbound Si. The refractory material used here contained Si,  $SiO_2$ , SiC, and C. There are 1 figure and 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute imeni A. F. Ioffe of the Academy of Sciences USSR)

Card 2/2

L 1651-66 EWP(a)/EWT(m)/EWP(i)/ETC/EPF(n)-2/EWG(m)/EWP(t)/EWP(b) IJP(c)

JD/HW/JG/AT/WH

ACCESSION NR: AP5021548

UR/0286/65/000/013/0012/0012  
661.888.685.002.2

62  
B

AUTHOR: Gurin, V. N.; Obukhov, A. P.; Terent'yeva, Z. P.; Bashinskaya, I. R.

TITLE: Method of synthesizing metal disilicides. Class 12, No. 172285

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1965, 12

TOPIC TAGS: metal disilicide, vanadium disilicide, niobium disilicide, tantalum disilicide, disilicide synthesis

ABSTRACT: This Author Certificate introduces a method of synthesizing vanadium, niobium, and tantalum disilicides by a reaction between metal and silicon taking place in a molten metal. In order to decrease the temperature of reaction, zinc is used as the molten metal and the process is conducted at the boiling point of zinc. Reaction products are subsequently separated from the molten metal. [AZ]

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR (Physicotechnical Institute, AN SSSR)

SUBMITTED: 03Jul64

NO REF SOV: 000  
Card 1/1 DP

ENCL: 00  
OTHER: 000

SUB CODE: 16, KM  
ATD PRESS: 4093

117 AND 118 INDEX		PROCESSING AND PROPERTY INDEX	
TERENY, A.		Up-to-date Heavy Forging Shops. A. Tereny. (Bányászati és Kohászati Lapok. 1950, vol. 6, Nov., pp. 622-633. [In Hungarian]. The power requirements of heavy forging machines and the reasons for the extensive application of hydraulic controls are dealt with. Information is given on heavy presses available in several countries (including U.S.S.R. and Czechoslovakia) in 1948. Different hydraulic drives are described and compared.... n. u.	
S		11	
T-6			
METALLURGICAL LITERATURE CLASSIFICATION		CLASSIFICATION	

TERENY, A.

The hydraulic forging press is a machine tool for a heavy forge.

P. 14, Vol 4, no. 9, May 1955

SOURCE: Monthly list of East European Accessions, (EEAL), Lc, Vol. 5,  
No. 3, March 1956

TERENY, A.

More economical stamp forging by means of a horizontal forging machine. p. 477.  
Vol 7, no. 12, Dec. 1955. GEP. Budapest, Hungary.

So: Eastern European Accession. Vol 5, no. 4, April 1956

**"APPROVED FOR RELEASE: 07/16/2001**

**CIA-RDP86-00513R001755410005-3**

**APPROVED FOR RELEASE: 07/16/2001**

**CIA-RDP86-00513R001755410005-3"**



TERENY, A.

TERENY, A. Reducing the prime cost in a stamping forge. I. (To be contd.) p. 53.

Vol. 8, No. 2, Feb. 1956.

GEP

TECHNOLOGY

Budapest, Hungary

So: East European Accession, Vol. 6, No. 2, Feb. 1957

TE LNY, A.

Reduction of prime cost by synchronous forging.

P. 269. (GEP.) (Budapest, Hungary) Vol. 9, No. 7/8, Oct./Nov. 1957

SO: Monthly Index of East European Accession (MEAI) LC. Vol. 7, No. 5, 1958

TERENY, A.

Justification of induction heating in our drop-forging industry. p. 516.

KOHASZATI LAPOK. Budapest, Hungary. Vol. 14, no. 11, Nov. 1959.

Monthly List of East European Accessions (FEAT), LC, Vol. ~~XXXXXXXXXXXX~~  
Uncl. 9, no. 2, Feb. 1960

TERENY, Aladar

An account of the forging conference held April 20-29, 1960. Koh  
lap 93 no.8:378-381 Ag '60.

1

A052/A120

AUTHOR: Terény, Aladar

TITLE: Manufacturing large forgings

PERIODICAL: Referativnyy zhurnal, Tekhnologiya mashinostroyeniya, no. 2, 1965, n. abstract V54 Konasz. lapok, v. 15, no. 2, 1962, 422-424, Hungarian summaries in Russian, German and English

TEXT: Economic methods of forging large-diameter rings and methods of manufacturing hollow forgings are discussed. Suggestions are made on mechanization of smith forging processes. There are 10 figures and 2 references.

M. Grinberg

(Abstracter's note: Complete translation.)

Card 1/1

L 32129-66 EWP(v)/T/EWP(k)/EWP(h)/EWP(l)

ACC NR: AF6023546

SOURCE CODE: HU/0014/65/098/012/0540/0548

AUTHOR: Tereny, Aladar (Graduate metallurgical engineer)

ORG: none

TITLE: Tool materials for and grooving of forging cylinders

SOURCE: Kohaszati lapok, v. 98, no. 12, 1965, 540-548

TOPIC TAGS: mechanical metal cutting, tool steel, forging machinery

ABSTRACT: A review was made of the operations involved in the manufacture of the cylinder segments from various steels, in the grooving of the segments, in the determination of the diameter decrease for various initial cross section configurations, in the determination of groove length, in the preparation of the works blueprints for grooved cylinders, and in the fitting of the cylinder segments. Numerical data were presented in tabular form to assist in setting up the manufacturing operations and some of the salient operations were illustrated with photographs. Equations for use in designing functions were given. Orig. art. has: 16 figures and 4 tables. [JPRS]

SUB CODE: 13, 11 / SUBM DATE: none

Card 1/1

UDC: 621.974.8/.975:669.14.018.2

TERENYI, Gyula

Manufacture of solid mullite ceramics. Epitoanyag 14 no.12:  
475-478 D '62.

TERENYI, Gyula

Possibilities for the continuous combustion of oxide ceramic tubes.  
Építőanyag 15 no.4:138-143 Ap '63.

1. Magnezitipari Művek Kutató Laboratóriuma.



TERENYI, Gyula

Pressing high-purity refractory materials. Epitoanyag 15  
no.12:461-463 D '63.

1. Magnezitipari Muvek Kutato Laboratoriuma.

TERENYI, Gyula

Injection moulding of ceramic materials. *Építőanyag* 16  
no.12:455-468 D '64.

1. Research Laboratory of Magnesite Industrial Works,  
Budapest.

TERENYI, László

Serving the workers. Hungarian TU no.10:8-9 '0 '61.

1. General Secretary of the Hungarian Printing, Paper & Press Workers' Union.

TERENYI, Laszlo

The Hungarian Printing Workers Union is one hundred years old.  
Hung TU no.5:8-9 My '62.

1. General Secretary of the Printing, Paper and Press Workers'  
Union.

TERENYI, Laszlo

The time for actions has come! Munka 13 no.6:14-15 Je '63.

1. Nyomda-, Papiripar es a Sajto Dolgozoi Szakszervezete  
fotitkara.

TERENYI, L.

Herend porcelain. Epitoanyag 16 no. 8:283-289 Ag '64.

TITENYI, László

Achievements of the Fine Ceramic Industry National Enterprise  
at the Budapest International Fair. Epitoanyag 16 no.10:  
389-390 0 '64.

TERENYI, Laszlo; ANDRASOVSKY, Gyorgy

The 125-year-old Herend Porcelain Factory. Epitoanyag 17 no.4:  
149-152 Ap '65.

1. Fine Ceramic Industry National Enterprise, Budapest.



15

*CR*

Laboratory examination of "Germisan-Kurbeirverfahren." SANDOR TARÁNYI.  
*Kivitel. Közlemények 31, 373-5(1928).*—The germinating power of wheat was not  
 influenced by 0.5, 0.75, 1 and 1.5% solns. of Germisan in the ratio of 0, 4, 3 and 2 l.  
 to 100 kg. wheat. Germisan killed the spores of wheat not very strongly infected  
 (not more than 0.1% spores) quite well. Field expts. are under way. S. S. DE V.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

Spraying experiments with sugar beet. JANDON TRUENY, Meadowlands Kula.  
 /kula 4, 408-17(1931). -- Cu conts. fungicides increased sugar content and sugar yield  
 of beets. S or Ba compds. added to Cu compds. did not influence the yield, but Cu com-  
 bined with As or Hg compds. increased it.

15

CA

Increase of action of copper salt solutions used as seed preservatives. *S. Targui*  
*Chem. Rundschau Mitteleuropa u. Balkan* (10), 8, 1-3(1931). - The effective damage is  
diminished to 25-30% of original value if Hg salts are added to Cu salts, e. g., 0.25%  
Cu(NO<sub>3</sub>)<sub>2</sub> and 0.006% HgBr<sub>2</sub>.  
S. N. DE PINALLY

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

157A

burning effect of arsenic sprays. Sámor, Terényi (Növényegészségügyi Kutatóintézet, Budapest, Hung.). *Agrárudomány* 2, 531-46(1960).—The burning effect of various sprays on the leaves of apricot and apple trees was studied during 3 yrs. The limiting concns. detrimental to leaves were for sprays contg. water-sol. As(III) compds. in the form of  $As_2O_3$ ,  $Na_2AsO_3$ , or  $K_2AsO_3$  at levels of 0.01, 0.0025, or 0.005, resp., for apricots and 0.03, 0.01, or 0.017%, resp., for apples. In the series of As(V) compds. the limiting values were for  $As_2O_5$  0.03 and 0.06,  $Na_2HAsO_4$  0.025 and 0.025,  $K_2HAsO_4$  0.012 and 0.012, arsacetin ( $CH_3CONHC_6H_5$ ),  $As_2O_3(OH)$  0.08 and 0.21%, and cacodylic acid 0.023 and 0.036%, resp., for apricots and apples.  $As_2O_3$  or  $As_2O_5$  content alone does not det. the burning effect, since this depends on the actual compn. of the spray. Water-sol. As(III) or As(V) compds. show no detrimental effect during drying. If, however, the spray remains on the leaf surface 6-24 hrs. harmful effects appear, even when the spray is subsequently removed. Treyns. contg. 0.3% Schweinfurth green (I) burned apple leaves even when lime was present in the spray. An aq. soln. contg. 0.25% K arsenate was

detrimental to apricot leaves but not to apple leaves. When, however, Bordeaux mixt. or Ba polysulfide or colloidal S was added, the burning effect was much greater. The detrimental effect was significantly reduced by the simultaneous use of Bordeaux mixt. and colloidal S. The effects of 40 inorg. As compds. were examd. in detail and the results given. The addn. of lime was generally advantageous and diminished the burning effect of As sprays. Some of the water-sol. As(III) and As(V) compds. showed burning effects smaller than those of I or Ca arsenate. The burning effect is due to the water-sol. compds., but insol. As compds. remaining on the surface often gradually dissolve and cause burning.

István Fényes

TERENYI, S.

Theoretical and practical aspects of substitution of copper in the protection of plants. p. 271. (Agrartudomány, Budapest, Vol. 6, no. 9, Sept. 1954)

SO: Monthly list of East European Accessions (EEAL), LC Vol 4, no. 6, June 1955 Uncl

TERENYI, S.

Effects of the first and second generations of the pest on the damage

offerive against the first and second generations when the larvae have not yet penetrated deeply into the nest. Chem control of the third generation is possible with sprays containing parathion 40-50% by applying 0.6-1.0 kg per ha.

TERENYI, S.

Instructions for spraying fruit trees. p. 217  
KOZLEMENYEI, Budapest. Vol 8, no. 1/2, 1955.

SOURCE: EEAL Vol 5, no. 7, July 1956.

TERENYI, S.

HUNGARY / General and Specialized Zoology. Insects. P  
Insect and Mite Pests.

Abs Jour : Ref Zhur - Biol., No 10, 1958, No 44256

Authors : Terenyi, S.; Bognar, S.

Inst : Hungarian Academy of Sciences.

Title : The Burrowing Beet Moth and Results of its  
Control in Hungary in 1950-53.

Orig Pub : Acta agron. Acad. sci. hung., 1956, 6, No.  
3-4, 411-441

Abstract : In field experiments on the widely distributed  
moth *Gnorimoschema ocellatella* Boyd 99.3% of  
the larvae died from spraying with parathion  
(0.06%) at an application rate of 0.36-1.9  
kg/ha and 77.5% of the insects died from systox  
(0.04%). DDT and hexachlorocyclohexane even  
in higher concentrations and at an increased

Card 1/2



HUNGARY ; General and Specialized Zoology. Insects. P  
Insect and Mite Pests.

Abs Jour : Ref Zhur - Biol., No 10, 1958 No 44856

rate were ineffective against the larvae of the older generations. The following parasites of the moth were found: Braconids-Chollenella contracta and Orgilus sp., the ichneumonid Cremastus ornatus and the predator-Chrysopa sp., the ant Tetramorium caespitum and the spider Xisticus sp. 4-17% of the moth larvae were infected with parasites. -- N. M. Dobrokhotova.

Card 2/2

49

TERENYI, S.

TECHNOLOGY

PERIODICAL: MAGYAR KEMIKUSOK LAPJA. Vol. 13, no. 9, Sept. 1958

Terenyi, S. Development in production and research of insecticides  
in Hungary. p. 317.

Monthly list of East European Accessions (EEAI) LC, Vol. 8, No. 2,  
February 1959, Unclass.

5/28/1963/000/005/9-2/000  
 5/28/1963

Kozlov, M. I., Kozlovskii, M. I., Terepik, J.

TITLE

Distribution ratios in fixed solvents. I. Ideal mixtures of solvents. II. Non-ideal mixtures of solvents: chloroform + carbon tetrachloride and chloroform + n-hexane

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 3, 1963, 60-61, abstract JB400 (Bull. Acad. polon. sci. Ser. sci. chim., v. 9, no. 2, 1961, 595-599; 601-604 [Eng.; summary Russ.] )

TEXT: I. The distribution is studied of 1-nitro-propane (I), o-nitro-aniline (II) and o-nitro-phenol (III) (in highly dilute solutions) between water and a mixture of isooctane (IV) + hexadecane (V) at 20<sup>±</sup>1°C. It was established that for an ideal organic mixture of IV + V the following relation is true:  $\log K_{x_0} = x_1 \log K_{x_1} + x_2 \log K_{x_2}$ , where  $K_{x_0}$ ,  $K_{x_1}$  and  $K_{x_2}$  in conformity with the distribution ratio of the substance distributed between the solvent mixture and the pure solvents are expressed as a ratio  
 Card 1/3

Distribution ratios in mixed ...

S/081/63/000/003/002/036  
B144/B186

of the molar fraction of the substance distributed in the organic and aqueous phases, and  $x_1$  and  $x_2$  are the molar fractions of IV and V in the mixture. The equation is confirmed by the example of extraction of I. If the form and the dimensions of the molecules of the substance distributed differ markedly from the form and dimensions of the molecules of the solvents (e. g. in the case of II and III), the experimental data satisfy the equation:  $\log K_{x_0} = \gamma_1 \log x_1 + \gamma_2 \log K_{x_2}$ , where  $\gamma_1$  and  $\gamma_2$  are the

volumetric fractions of the solvents in the mixture. Based on the examples studied it is shown that  $\log K_c/K_0 = c(\text{org.})/c(\text{aqueous})$ ;

( $c$  = concentration of the substance distributed in moles/g) proves not to be a linear function of  $x_1$ . It is noted that in the ideal mixture of

solvents  $\log K_0$  can be a linear function of  $x_1$  only in the case of the molar volumes of the solvents being equal. II. The distribution of

p-nitro-phenol (VI) (concentration 10<sup>-4</sup> mole/l) between water and a ...

...  
Data ...

1. The values of  $K_{X_0}$  are calculated from eq. (1).

2. The values of  $K_{X_0}$  are calculated from eq. (1).

$\log K_{X_0} = x_1 \log K_{Y_0} + x_2 \log K_{Z_0} + \frac{E}{4.575T}$  (1), where  $E$  is the excess free energy of mixing. For the non-ideal mixture of VII + n hexane (VIII), the values  $K_{X_0}$ , calculated from eq. (1) for the region rich in VIII, are

somewhat lower than the experimental values. The differences between the experimental and calculated values  $K_{X_0}$  are explained on the basis of the

change of the solvation of VII in the organic phase when the composition of the organic solution changes. This suggestion is confirmed by the example of iodine distribution in the system  $H_2O - CCl_4 - C_6H_6$ .

[Abstractor's note. Complete translation.]

Card 5/5

1/ Sensitization by ions of internal photoeffect in semi-  
conductors. A. N. Ignatyev and E. A. Pivovarov. *Usp. fiz. nauk* 1964, 91, 104-105. 104-105. 104-105. 104-105.  
2/ Sensitization by ions of internal photoeffect in semi-  
conductors. A. N. Ignatyev and E. A. Pivovarov. *Usp. fiz. nauk* 1964, 91, 104-105. 104-105. 104-105. 104-105.  
3/ Sensitization by ions of internal photoeffect in semi-  
conductors. A. N. Ignatyev and E. A. Pivovarov. *Usp. fiz. nauk* 1964, 91, 104-105. 104-105. 104-105. 104-105.  
4/ Sensitization by ions of internal photoeffect in semi-  
conductors. A. N. Ignatyev and E. A. Pivovarov. *Usp. fiz. nauk* 1964, 91, 104-105. 104-105. 104-105. 104-105.  
5/ Sensitization by ions of internal photoeffect in semi-  
conductors. A. N. Ignatyev and E. A. Pivovarov. *Usp. fiz. nauk* 1964, 91, 104-105. 104-105. 104-105. 104-105.  
6/ Sensitization by ions of internal photoeffect in semi-  
conductors. A. N. Ignatyev and E. A. Pivovarov. *Usp. fiz. nauk* 1964, 91, 104-105. 104-105. 104-105. 104-105.  
7/ Sensitization by ions of internal photoeffect in semi-  
conductors. A. N. Ignatyev and E. A. Pivovarov. *Usp. fiz. nauk* 1964, 91, 104-105. 104-105. 104-105. 104-105.  
8/ Sensitization by ions of internal photoeffect in semi-  
conductors. A. N. Ignatyev and E. A. Pivovarov. *Usp. fiz. nauk* 1964, 91, 104-105. 104-105. 104-105. 104-105.  
9/ Sensitization by ions of internal photoeffect in semi-  
conductors. A. N. Ignatyev and E. A. Pivovarov. *Usp. fiz. nauk* 1964, 91, 104-105. 104-105. 104-105. 104-105.  
10/ Sensitization by ions of internal photoeffect in semi-  
conductors. A. N. Ignatyev and E. A. Pivovarov. *Usp. fiz. nauk* 1964, 91, 104-105. 104-105. 104-105. 104-105.

*TERESHCHENKO, A.*  
~~TERESHCHENKO, A.~~, inzh.; ~~POHOMAREV, V.~~, inzh.

Installing pneumatic transportation in grain mills. Muk.-elev. prom.  
10:19-20 0 '57. (MIRA 11:1)  
(Four mills) (Pneumatic-tube transportation)

TERESHCHENKO, A., inzhener.; PONOMAREV, V, inzhener.

Improvement of technology employed at farm mills. Muk.-elev. prom.  
23 no.4:21-22 Ap '57. (MLRA 10:5)

1. Glavnoe upravleniye mkomol'noy promyshlennosti Ministerstva  
promyshlennosti prodovol'stvennykh tovarov RSFSR.  
(Grain milling machinery)



*Tereshchenko, A.*

TELENGATOR, H., kand. tekhn. nauk; TERESHCHENKO, A., inzh.

State grain mills during 40 years. Muk.-elev. prom. 23 no.11:26-  
27 N '57. (MIRA 11:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov  
yego pererabotki (for Telengator). 2. Gosudarstvennaya planovaya  
komissiya Soveta Ministrov RSFSR (for Tereshchenko).  
(Grain milling)

PONOMAREV, V., inzh.; TERESHCHENKO, A., inzh.

Producing high-grade flour at rural mills. Muk.-elev.prom. 25  
no.12:25-26 D '59. (MIRA 13:4)  
(Flour mills)

TERESHCHENKO, A.

AVB-400 rotary drilling rig. Nev.neft.tekh.:Bur.no.7:8 '48.  
(Oil well drilling--Equipment and supplies) (MLRA 9:4)

**TERESHCHENKO, A.**

L 6-3 draw works. Nev.neft.tekh.:Bur.no.7 :2-3 48(MIRA 9:4)  
(Oil well drilling--Equipment and supplies)

ZINENKO, V.A.; PODKOSHA, G.P.; TERESHCHENKO, A.A.; TKACHENKO, A.P.;  
KRASOVSKIY, Yu.r.

Ways of lowering the seismic action of large-scale blasts in  
a pit of the Central Ore Dressing Combine. Gor. zhur. no.9:72  
S '62. (MIRA 15:9)

(Krivoy Rog Basin—Blasting)

ARSENT'YEV, A.I., dotsent; YESHCHENKO, A.A., inzh.; BOYKO, N.P., inzh.;  
TERESHCHENKO, A.A., inzh.

Constructing an open-pit in the Central Ore-Dressing Combine. Izv.  
vys.ucheb.zav.; gor.khur. 5 no.2:75-81 '62. (MIRA 15:4)

1. Krivorozhskiy gornorudnyy institut (for Arsent'yev, Yeshchenko).
2. TSentral'nyy gornoobogatitel'nyy kombinat (for Boyko, Tereshchenko).  
(Krivoy Rog Basin--Strip mining)

U

ALEKSEYEV, F.K.; ANDRIYUTS, G.L.; ARSENT'YEV, A.I.; ASTAF'YEV, Yu.P.;  
BEVZ, N.D.; BEREZOVSKIY, A.I.; GENERALOV, G.S.;  
DOROSHENKO, V.I.; YESHCHENKO, A.A.; ZAPARA, S.A.; KALINICHENKO, V.F.;  
KARNAUSHENKO, I.K.; KIKOVKA, Ye.I.; KOBOZEV, V.N.; KUPIN, V.Ye.;  
LOTOUS, V.K.; LYAKHOV, N.I.; MALYUTA, D.I.; METS, Yu.S.; OVODENKO,  
B.K.; OKSANICH, I.F.; PANOV, V.A.; POVZNER, Z.B.; PODORVANOV, A.Z.;  
POLISHCHUK, A.K.; POLYAKOV, V.G.; POTAPOV, A.I.; SAVITSKIY, I.I.;  
SERBIN, V.I.; SERGEYEV, N.N.; SOVETOV, G.A.; STATKEVICH, A.A.;  
TERESHCHENKO, A.A.; TITOV, D.S.; FEDIN, A.F.; KHOMYAKOV, N.P.;  
SHEYKO, V.G.; SHEKUN, O.G.; SESTAKOV, M.M.; SHTAN'KO, V.I.

Practice of construction and exploitation of open pits of Krivoy  
Rog Basin mining and ore dressing combines. Gor. zhur. no.6:  
8-56 Je '63. (MIRA 16:7)

(Krivoy Rog Basin--Strip mining)

NOVOZHILOV, M.G., prof., doktor tekhn. nauk; DRUKOVANYI, M.F., kand.  
tekhn. nauk; YEFREMOV, E.I., gornyy inzh.; TERESHCHENKO, A.A.,  
gornyy inzh.; SHESTAKOV, M.M., gornyy inzh.; PIL'NIK, I.L.,  
gornyy inzh.

Experience in blasting of high benches at the Krivoy Rog Basin  
Central Mining and Ore Dressing Combine. Gor. zhur. no.11:  
29-33 N '63. (MIRA 17:6)

1. Otdeleniye gornorudnykh problem AN UkrSSR (for Novozhilov,  
Drukovanyy, Yefremov). 2. TSentral'nyy Krivorozhskiy gorno-  
obogatitel'nyy kombinat (for Tereshchenko, Shestakov, Pil'nik).



DRUKOVANYI, M.F., kand. tekhn. nauk; YEFREMOV, E.I., gornyy inzh.;  
TERESHCHENKO, A.A., gornyy inzh.; SHESTAKOV, F.K., kand. tekhn.  
nauk; MALYY, I.S., gornyy inzh.

Crushing of rocks in blasting paired benches in the Central and  
Ingulets Mining and Ore Dressing Combines in the Krivoy Rog  
Basin. Vopr. delo no.53/10:147-156 '63. (MIRA 16:8)

1. Otdel gornorudnykh problem AN UkrSSR (for Drukovanyy,  
Yefremov). 2. Tsentral'nyy gornoobogatitel'nyy kombinat  
(for Tereshchenko, Shestakov). 3. Inguletskiy gornooboga-  
titel'nyy kombinat (for Alekseyev, Malyi).  
(Krivoy Rog Basin--Blasting)



**"APPROVED FOR RELEASE: 07/16/2001**

**CIA-RDP86-00513R001755410005-3**



**APPROVED FOR RELEASE: 07/16/2001**

**CIA-RDP86-00513R001755410005-3"**

PODKOSHA, G.P., gornyy inzh.; TERESHCHENKO, A.A., gornyy inzh.

Using igdanite at an iron ore strip mine. Vzryv. delo no.54/11:  
266-267 '64. (MIRA 17:9)

1. Rudnik Krivorozhskogo tsentral'nogo gornoobogatitel'nogo  
kombinata.

BONDAR', A.P.; LOTOUS, V.K.; TRESHCHENKO, A.A.

Experience in using combined transportation in strip mines. Gor.  
zhur. no.6:74-75 Je '65. (MIRA 18:7)

1. Krivorozhskiy Tsentral'nyy gornobogatitel'nyy kombinat.

YEFREMOV, E.I., kand. tekhn. nauk; BURLAKA, A.V., inzh.; TERESHCHENKO, A.A., inzh.; SUKHAREVSKIY, B.N., inzh.

Further improvement of boring and blasting operations with high benches in open-cut mines of the Krivoy Rog Central Mining and Ore Dressing Combine. Vzryv. delo no. 57/14: 162-167 '65. (MIRA 18:11)

1. Filial Instituta mekhaniki AN UkrSSR (for Yefremov, Burlaka).
2. Krivorozhskiy Tsentral'nyy gornoobogatitel'nyy kombinat (for Tereshchenko, Sukharevskiy).

ANTIPOV, A.A., inzh.; POPOV, V.G., kand.tekhn.nauk; TERESHCHENKO, A.F.,  
kand.tekhn.nauk

Methods of calibrating propeller shafts. Sudostroenie 29 no.10:  
64-66 0 '63. (MIRA 16:12)

TERASHCHENKO, A.F.

Methodology for the measurement of the temperature of surfaces.  
Zav.lab. 30 no.3:317-318 '64. (MIRA 17:4)

1. Nikolayevskiy korablestroitel'nyy institut.



TERESHCHENKO, A. F., CAND TECH SCI, <sup>study</sup> "INVESTIGATION OF <sup>the</sup> HIGH-TEMPERATURE CHARACTERISTICS OF STRENGTH AND PLASTICITY OF HEAT-RESISTANT MATERIALS IN <sup>the</sup> TEMPERING OF SPECIMENS BY THE ELECTRICAL RESISTANCE METHOD." KIEV, 1961. (ACAD SCI UKSSR. INST OF METALLOCERAMICS AND SPECIAL ALLOYS). (KL-DV, 11-61, 223).

-187-

34718

S/137/62/000/002/099/14  
A060/A101

18.8200

AUTHOR: Tereshchenko, A. F.

TITLE: On the heating of specimens by electric current for high-temperature testing

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 78, abstract 21526  
("Sb. nauchn. tr. aspirantov Kiyevsk. politekhn. in-ta", Kiyev, 1961, 151-161)

TEXT: The conclusions of several authors as to the specific action of electric current upon the heterogeneous structure of an alloy and as to the influence of electric current upon the mechanical characteristics of materials are set forth. The results are cited of the experimental study of the authors by comparing the characteristics of strength and ductility of steel 1X18H9T (1Kh18N9T) and of metallo-ceramic materials on Si-carbide base under momentary tension with heating in a furnace and by electric current. The law of temperature distribution along the length and over the sections of the specimen under heating with electric current is described with sufficient precision by parabolic curves. No "Heweling effect" was uncovered in the course of stationary heating of steel

Card 1/2

On the heating of specimens ...

S/137/62/000/002/099/144  
A060/A101

IKh18N9T between the limits of 400 and 900°C. It is indicated that the heating by electric current yields a slight decrease in strength (by 5 - 8%), and the  $\sigma_s$  and  $\sigma_b$  of steel determined according to the usual methods are then higher than after heating in a furnace. No considerable difference in the tensile strength characteristics of steel and also of metallo-ceramic materials on Si-carbide base at 800 - 1,200°C was established. There are 10 references.

V. Ferenets

[Abstracter's note: Complete translation]

Card 2/2

S/137/62/000/001/049/237  
A060/A101

AUTHOR: Tereshchenko, A. F.

TITLE: On the influence of the heating method upon the durability of certain metallo-ceramic materials

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 37, abstract 10279 ("Poroshk. metallurgiya", 1961, no. 3, 75 - 78 [English summary])

TEXT: Using the example of durability testing (~200 hrs) of a composition on a base of  $\text{Cr}_3\text{C}_2$  and SiC at 900 and 1,000°C, it was demonstrated that heating in a furnace and heating by the passage of electric current yield similar practical results, but the temperature distribution along the specimen length is considerably better in the first instance. The temperature drop between the middle of the specimen and its edges (total length 40 mm) under heating in a furnace up to 1,000°C constituted ~50°C, and under heating by electric current in cooled clamps - 250°C, and in uncooled clamps ~200°C.

R. Andriyevskiy

[Abstracter's note: Complete translation]

Card 1/1

S/032/61/027/001/021/037  
B017/B054

AUTHORS: Tereshchenko, A. F. and Pisarenko, G. S.

TITLE: Effect of the Heating Method on Mechanical Characteristics  
of 1X18H9T(1Kh18N9T) Steel in Elongation

PERIODICAL: Zavodskaya laboratoriya, 1961, Vol. 27, No. 1, pp. 81-84

TEXT: The authors made comparative studies of the effect of the heating method on mechanical characteristics (strength and refractoriness) of 1X18H9T (1Kh18N9T) steel. Tests were made by the East-German test machine DCT-5 (DST-5). Asbestos-insulated specimens were heated by electric current and in a furnace; it was found that specimens heated by electric current showed a 5-8% decrease in strength. This is explained by the fact that electric heating causes uneven temperature distribution along the steel specimens. The authors studied the strength, plasticity, and local plastic deformation of the specimens. The elasticity and fusibility of specimens were higher when heated by electric current than in the furnace. In addition, mean and uniform elongation were lower, while local plastic deformation was higher. Relative shrinkage and maximum elongation in

Card 1/2

Effect of the Heating Method on Mechanical  
Characteristics of 1X 18H9T (1Kh18N9T)  
Steel in Elongation

S/032/61/027/001/021/037  
B017/B054

percent were the same in both cases. There are 3 figures.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov Akademii  
nauk USSR (Institute of Powder Metallurgy and Special Alloys,  
Academy of Sciences UkrSSR)

Card 2/2

S/032/63/029/002/024/028  
B101/B186

AUTHOR: Tereshchenko, A. F.

TITLE: Circuit for temperature programming in long-duration tests of heat resistant alloys

PERIODICAL: Zavodskaya laboratoriya, v. 29, no. 2, 1963, 232 - 234

TEXT: A simple circuit (Fig. 2) is suggested for programming the temperature change in long-life tests and creeping tests. The programming is effected by timing relays. The thermocouple  $T(T)$  switches on the contacts  $K\pi_1$  ( $KP_1$ ) or  $K\pi_2$  ( $KP_2$ ) of the controlling potentiometer  $\pi(P)$ .  $KP_1$  is switched on when the temperature of the specimen is lower than the mean temperature  $t_m$  or lower than the temperature adjusted by the potentiometer. discs. The timing relay  $PB_1$  ( $RV_1$ ) adjusts the delayed switching from lower to higher temperatures and the relay  $PB_2$  ( $RV_2$ ) adjusts the delayed switching from higher to lower temperatures.. Type  $PB-88$  ( $RV-88$ ) is recommended as timing relay which permits a delay of 0 to 120 sec. If the temperature of the specimen is lower than  $t_m$  then the furnace is fed with an increased wattage over the closed contacts  $KP_1$ ,  $K\pi(KRP)$  and  $KPB_1$  ( $KRV_1$ ).  
Card 1/3

S/032/63/029/002/024/028  
B101/B186

Circuit for temperature programming...

After  $t_m$  is attained the heating current is not reduced immediately but after the time adjusted at the relay RV2.  $t_m$  is adjusted at the variator PHO-5-250 (RNO-5-250). There are 3 figures.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov Akademii nauk USSR (Institute of Powder Metallurgy and Special Alloys of the Academy of Sciences UkrSSR)

Fig. 2. Circuit for temperature programming; (a) heating circuit; (6) control circuit. KT1 (KT1) and KT2 (KT2) - contactor coils; ПП(RP) intermediate relays; KKT1 (KKT1) and KKT2 (KKT2) - contacts.

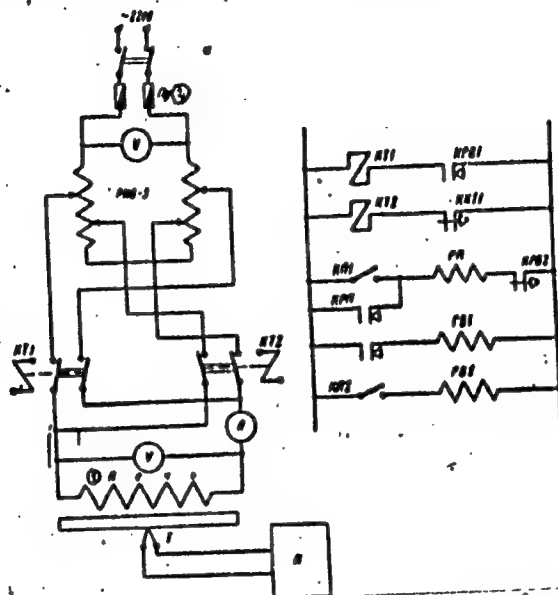
Legend: (1) furnace; (2) fuse.

Card 2/3



Circuit for temperature programming...

S/032/63/029/002/024/028: ..  
B101/B186



Card 3/3.

L 1722-66 ENT(d)/ES

ACCESSION NR: AP5023125

UR/0103/65/026/009/1646/1648  
621.376.223

AUTHOR: Tereshchenko, A. F. (Moscow)

TITLE: High-sensitivity semiconductor-type pulse modulators

SOURCE: Avtomatika i telemekhanika, v. 26, no. 9, 1965, 1646-1648

TOPIC TAGS: pulse modulation 4 5

ABSTRACT: To eliminate a low-level d-c amplifier with its undesirable zero-point drift, a high sensitivity pulse modulator is suggested which essentially consists of an interrupter, a linear pulse amplifier, a phase-sensitive level limiter, and a relaxation generator; the latter develops either a pulse-duration or pulse-rate signal and also serves as an interrupting-voltage source. These results of experimentation with a laboratory model of a pulse-duration modulator operating at a conversion frequency of 5 kc are reported: an output-pulse modulation of 70% corresponds to a 10-mv input signal from a sensor of 20-kohm resistance; nonlinear distortion, 3% or less; nonuniformity of the frequency characteristic, 6% within a signal-frequency band of 0-1 kc; spurious modulation, 4% for temperatures from +20 to +50C. Orig. art. has: 4 figures.

[03]

Card 1/2

L 1722-65

ACCESSION NR: AP5023125

ASSOCIATION: none

SUBMITTED: 21Jan65

NO REF SOV: 002

ENCL: 00

OTHER: 000

SUB CODE: EC

ATD PRESS: 4096

Card 2/2

ACC NR: AP6035907

SOURCE CODE: UR/0413/66/000/020/0152/0152

INVENTOR: Tereshchenko, A. F.

ORG: none

TITLE: Differential-type low voltage-to-pulse frequency converter. Class 42, No. 187401

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 152

TOPIC TAGS: voltage converter, digital analog converter, *frequency converter*, *amplitude modulator*, *amplitude modulation*

ABSTRACT: An Author Certificate has been issued for differential-type low voltage-to-pulse frequency converter containing a transistor amplitude modulator in each input,

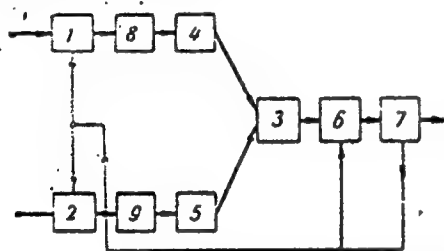


Fig. 1. Frequency converter

1, 2 - Modulators; 3 - differential amplifier; 4, 5 - matching units; 6 - level-holding unit; 7 - oscillator; 8, 9 - separation unit.

Card 1/2

UDC: 681.142.07:621.314.5

ACC NR: AP6035907

amplifying and matching units, a phase-sensitive level-holding unit, and a relaxation oscillator whose oscillation frequency depends on input voltage. To increase sensitivity and also to translate several source signals simultaneously, separation units are added between the modulators and matching units (see Fig. 1). Orig. art. has: 1 figure.

SUB CODE: 09/ SUBM DATE: 04Jan65/

Card 2/2

TERESHCHENKO, A. I.

Tereshchenko, A. I. -- "Several Operating Conditions of a Multisegment  
Magnetron With a Grid." Cand Phys-Math Sci, Khar'kov State U,  
Khar'kov 1953. (Referativnyy Zhurnal--Fizika, January 54)

SO: SUM 168, 22 July 1954

TERNSHOFER, V. I.

"Application of a discriminator to measurement of small capacities"  
Uch. Zap. Kharkovskogo Univ., 4, 1953, pp 211-214

Small capacities are measured by a device consisting of a transition oscillator and a discriminator. The slope of the discriminator characteristic depends on the difference of the capacitors connected in parallel with the diodes of the discriminator. The device is able to measure capacity below 0.5 mmf with an order of accuracy of  $5 \cdot 10^{-3}$  mmf. (RZhFiz, No 2, 1954)

SO: Sum. 402, 12 May 55

ERESHCHENKO, A. I.

200/12-58-4-29/30

Stolyarov, A.G.

All-Union Session Marking "Radio Day" (Vsesoyuznaya nauchnaya sessiya, posvyashchennaya "Dnyu Radio")  
Investiya vysshikh uchebnykh zavedeniya - Radiotekhnika, 1956, Nr 4, pp 317-321 (USSR)

PERIODICAL:

ABSTRACT:

During the period May 12-17, 1956, an All-Union Scientific Session was held in Moscow, devoted to the problems of radio engineering and electronics. The session was organized by the Central Scientific and Technical Administration of the Ministry of Communications and Electronics. 280 papers were read at the session. 25 in the field of information theory and more than 20 in the field of electronics, dealing with theoretical/experimental research on electronic equipment. V.I. Sifonny spoke on "The Transmission Capacity of Single-Way and Multi-Way Communication Canals". L.I. Filizov looked at the potential interference resistance of an ideal radio receiver. D.A. Krizik spoke on "The Transmission System of Electric Signals by the Optical Code of Shannon-Fano". A.G. Stolyarov and S.S. Pilyayman discussed "The Problem of Selective Amplification of Signals in a Non-Definite Signal Phase". S.I. Bykhov and V.M. Kuznetsov examined "The Potential Interference Resistance in a Non-Definite Signal Phase". V.A. Kashirin and G.A. Shustova discussed "The Optimal Parameters of the Tele-measuring System with regard to Interference Resistance". S.S. Pilyayman spoke on the question of creating an optimal code - in the Shannon conception - in the case of a binary symmetrical canal. L.F. Khondin discussed "The Method of Creating Several Codes with a Simple Base". In the field of electronics, P.A. Tarasov spoke on "Broad Band Electron Ray Tubes for Observation and Recording of Electric Signals and Ultra-high frequency oscillations". V.I. Sifonny and A.G. Stolyarov examined "The Problem of the Selection of Tubes with a Resonator and Wave Guides".

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Card 2/7

Stolyarov spoke on "The Selection of Oscillatory Energy of an Electronic Current, Modulated According to Density". M.B. Golant discussed a negative electron with a wide range of electron adjustment. S.I. Bykhov explained the phenomenon of electron displacement and gave an approximate description of the frequency characteristics of the magnetron under conditions of high amplitude oscillations. V.M. Kuznetsov and A.G. Stolyarov examined "Use of the Radiosonde with a High-Q Resonator for Examining Electromagnetic Fields in Resonators and Wave Guides".

V.I. Sifonny spoke on "The Theory of Non-linear Oscillations in Radio Engineering". V.A. Kashirin and G.L. Sukhin spoke on "The Electro-magnetic Radiation in Systems not Controlled by the Theory of Reciprocity in the Ultra-High Frequency Range".

G.Sh. Kevanishvili spoke on "The Theory of Non-linear Oscillations in Radio Engineering". V.A. Kashirin and G.L. Sukhin spoke on "The Electro-magnetic Radiation in Systems not Controlled by the Theory of Reciprocity in the Ultra-High Frequency Range".

G.Sh. Kevanishvili spoke on "The Theory of Non-linear Oscillations in Radio Engineering". V.A. Kashirin and G.L. Sukhin spoke on "The Electro-magnetic Radiation in Systems not Controlled by the Theory of Reciprocity in the Ultra-High Frequency Range".



М. В. Галакти.  
А. С. Топор.  
О исследовании работы параметрических усилителей СВЧ, в которых используются линии с обратной связью.

В. О. Салаев.  
О исследовании параметрических усилителей СВЧ с обратной связью.

9 июня  
(с 10 до 22 часов)

А. В. Виноградов.  
О исследовании транзитной частоты в параметрических усилителях СВЧ.

Г. А. Зайцев.  
О исследовании параметрических усилителей СВЧ с обратной связью.

М. В. Галакти.  
Метод расчета параметрических усилителей СВЧ с обратной связью.

А. В. Виноградов.  
М. В. Галакти.  
Об исследовании параметрических усилителей СВЧ с обратной связью.

Об исследовании параметрических усилителей СВЧ с обратной связью.

А. В. Галакти.  
Исследование параметрических усилителей СВЧ с обратной связью.

10 июня  
(с 10 до 18 часов)

А. В. Галакти.  
М. В. Галакти.

О исследовании параметрических усилителей СВЧ с обратной связью.

М. В. Галакти.  
А. В. Галакти.

Исследование параметрических усилителей СВЧ с обратной связью.

М. В. Галакти.  
М. В. Галакти.  
О. В. Галакти.

Исследование параметрических усилителей СВЧ с обратной связью.

report submitted for the Centennial Meeting of the Scientific Technological Society of  
Radio Engineering and Electrical Communications in A. S. Popov (VSEI), Moscow,  
8-12 June, 1959

SOV/115-59-5-24/27

9(3), 28(2)

AUTHOR: Tereshchenko, A.I.

TITLE: Installation for Measuring Dielectric Shielding Factors on Extra High Frequencies

PERIODICAL: Izmeritel'naya Tekhnika, 1959, Nr 5, pp 54-55 (USSR)

ABSTRACT: In the Khar'kov State University the author has found a method (Ref.1,2,3) and constructed a device to measure dielectric shielding factors. It is based on the phase sensitivity of a wave guide crystal control. The crystal control serves for a comparison of the phase of the waves. These are reflected by the dielectric which is to be measured and by the standard resonator. The result of this comparison shows in the located current of the crystal control, which is proportional to the dielectric shielding factor of the sample. This method is used for testing high frequency dielectrics with small losses. With the help of a special cuvette it can also be used for liquid and gas dielectrics. There are 1 layout and 4 Soviet references.

Card 1/1

SHUBARIN, Yuriy Vasil'yevich; MISHCHENKO, Yu.A., dotsent, retsentsent;  
SHIPRIN, Ya.S., dotsent, retsentsent; ~~TERESHCHENKO, A.I.~~, dotsent,  
otv.red.; BAZILYANSKAYA, I.L., red.; NIKULINA, N.I., tekhred.

[Microwave antennas] Antennyy sverkhvysokikh chastot. Khar'kov,  
Izd-vo Khar'kovskogo gos.univ., 1960. 283 p.

(MIRA 14:1)

(Antennas (Electronics))

DUBINSKIY, L.M.; ZAMANSKIY, S.M.; LOPATA, A.Ya.; MAN'KO, N.S.; REZNIK, N.D.; SKARZHEVSKIY, R.A.; TERESHCHENKO, A.I.; KOSTENKO, G.F., red.; TARASINKEVICH, P.P., red.; KAPLINSKIY, L.A., red.; SOROKA, M.S., red.

[The multi-spindle 1261M and 1262M automatic lathes and 1261P, and 1262P semiautomatic lathes; handbook on adjustment and servicing] Mnogospindel'nye tokarnye avtomaty 1261M, 1262M i poluavtomaty 12662P; rukovodstvo po naladke i obsluzhivaniyu. Izd. 2. Pod red. G.F.Kostenko, P.P.Tarasinkevicha i L.A.Kaplinskogo. Moskva, Mashgiz, 1960. 170 p. (MIRA 15:11)  
(Lathes--Maintenance and repair)

21178

S/141/60/003/006/017/025  
E192/E382

9.4210

AUTHORS: Tereshchenko, A.I. and Mints, M.Ya.

TITLE: Influence of Various Factors on the Magnitude of  
Electron Frequency Shift in a Magnetron

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,  
Radiofizika, 1960, Vol. 3, No. 6, pp. 1054-1061

TEXT: The paper was read at the Scientific Technical  
Conference GKRE in November, 1959.  
Analysis of the equivalent circuit of a magnetron oscillator  
shows that the relationship between the changes of the generated  
frequency and the phase-shift angle for the high-frequency  
component of the anode current and the high-frequency voltage  
in the resonators is in the form (Refs. 1, 2):

$$f = f (1 + \operatorname{tg} \Theta / 2Q_H) \quad (1)$$

where  $\Theta$  is the phase-shift angle between the high-frequency  
component of the anode current and the high-  
frequency voltage,

Card 1/7

21178

Influence of ....

S/141/60/003/006/017/025  
E192/E382

X

$f$  is the generated frequency,

$f_0$  is the frequency in the absence of phase-shift and

$Q_H$  is the quality factor of the oscillating system with load.

Eq. (1) shows that the frequency is primarily determined by mismatch angle  $\Theta$ . For the determination of this angle it is possible to employ the theory suggested by Bychkov (Ref. 1). On the basis of this theory the mismatch angle  $\Theta$  is expressed by:

$$\Theta = \Theta_1 - \Theta_2; \quad (3)$$

$$\Theta_1 = \arctg (K_2 \sqrt{I_0} \cos \Theta_2) \quad (4)$$

in which  $\Theta_1$  is the phase-shift angle between the induced current and voltage on the resonator and  $\Theta_2$  is the phase-shift between the tangential component of the induced

Card 2/7

21178  
S/141/60/003/006/017/025  
E192/E382

Influence of ....

current and the induced current itself. The angle  $\phi$  is given by:

$$(1 + \lg 2Q_n)^{-1} F_0(x) = 2,275 R_2 \sqrt{I_0 \sin \theta_s} \quad (5) \quad (5)$$

$$\bar{\alpha} = \arctg (L_2 \sqrt{I_0 \cos \theta_s}) \quad (6) \quad (6)$$

where the function  $F_0(\bar{\alpha})$  can be expressed by (Ref. 1):

$$F_0(x) = (4 - 2,87 \sqrt{\bar{\alpha}}) (1 - \lg^2 \bar{\alpha}) - 3,6 (e^{-\bar{\alpha}} - e^{-\lg \bar{\alpha}}) \lg \bar{\alpha} \quad (7) \quad (7)$$

A graph of this function was given in Ref. 1.  $I_0$  in the above equations denotes the DC component of the anode current of the system. If the quantities  $\alpha = L_2/R_2 \ll 1$ ,

$\gamma = K_2/R_2 \ll 1$  and  $\sqrt{L_2^2 + R_2^2} \simeq R_2$ , the relationship between and  $x = I_0 R_0^2$  can be simplified and written as

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$$\theta = \theta_0 - \gamma \sqrt{x} \cos \theta_0; \quad (17) \quad (17)$$

$$F_0(\bar{\alpha}) = -2,275 \sqrt{x} \sin \theta_0; \quad (18) \quad (18)$$

$$\bar{\alpha} = \arctg(\alpha \sqrt{x} \cos \theta_0). \quad (19) \quad (19)$$

For values of  $\bar{\alpha}$  of less than  $5^\circ$ , Eq. (18) can be approximated by:

$$F_0(\bar{\alpha}) = 4 - 2.87 \sqrt[4]{\alpha} \quad (20)$$

In this case, the equations for  $\bar{\alpha}$  and  $F_0(\bar{\alpha})$  can be solved graphically and it is possible to determine a limiting value  $x = x_1$  which corresponds to the minimum value of the anode currents  $I_{01} = x_1 R_2^2$ . It is then possible to obtain an analytical expression for  $x_1$  and the corresponding

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angle  $\theta_{01}$ . From this the function  $\tan \theta = f(x)$  in the vicinity of  $x = x_1$  can be found and it is therefore possible to determine the frequency de-tuning in the vicinity of the minimum current  $I_{01}$ . It is shown that the de-tuning is expressed by:

$$\frac{\Delta f_1}{f_0} = \frac{f(I_0) - f(I_{01})}{f_0} \approx \frac{1}{2Q_n} \left( -\gamma \sqrt{x-1} - \frac{1}{\sqrt{x-1} + x} + \lg \theta_{01} \right). \quad (39)$$

A graph of this function is shown in Fig. 2. The coefficient of the electronic frequency de-tuning can be expressed by:

$$z_1(I_0) = \frac{\partial f}{\partial I_0} = \frac{1}{4} \frac{f_0}{I_{01} Q_n} \frac{1}{\sqrt{x-1}} \left[ -\gamma + \frac{1}{(\sqrt{x-1} + x)^2} \right]. \quad (40)$$

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From this it is seen that at  $x \approx 1/\gamma$ , the current is equal to  $I_{02} = (1/\gamma)R_2^2$ . At this current the de-tuning coefficient is zero and consequently the maximum frequency stability is achieved. From the above, it is concluded that the maximum frequency de-tuning is obtained in the vicinity of the minimum current  $I_{01}$ , while the highest stability is obtained at the anode current  $I_{02}$ . Since the high-frequency output power is proportional to the anode current  $I_0$ , it follows that the electron de-tuning curve (Fig. 2) represents also the dependence of power on frequency. There are 2 figures, 1 table and 2 Soviet references.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet  
(Khar'kov State University)

SUBMITTED: March 1, 1960

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E033/E415

9,1310 (9/50 1130)

**AUTHORS:** Kovtun, N.M. and Tereshchenko, A.I.

**TITLE:** Investigation of the Characteristics of Resonance Ferrite Isolators (Valves) in H-Waveguides

**PERIODICAL:** Radiotekhnika i elektronika, 1960, Vol.5, No.10, pp.1593-1597

**TEXT:** The authors briefly review the properties and applications of  $\Pi$ - and H-shaped waveguides. The wide-band properties of the H-waveguide, together with the directional attenuation properties of resonant ferrite isolators, may be used to obtain waveguide "valves". The manner in which the forward and reverse wave attenuations, the forward-to-reverse ratio and the bandwidth depend on the dimensions of the H-waveguide are investigated theoretically and experimentally. The investigation refers to an H-waveguide such as shown in Fig.1, with a ferrite lamina placed parallel to the narrow wall of the waveguide and magnetized along the axis  $z$ . The author (H.M.Kovtun, Ref.6) has previously derived a transcendental equation for the relative propagation constant of such an arrangement and, from this equation, an expression is now obtained by successive approximation which

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expresses the forward and reverse attenuation in terms of the waveguide dimensions and the free-space wavelength. The results are presented graphically. Curves are given showing the relation between the forward and reverse wave losses and the position of the ferrite lamina in the waveguide with different values of the ratio of the waveguide dimensions  $g/b$ ,  $g$  being the "bridge" dimension. For comparison, corresponding curves are given for a rectangular waveguide with dimensions  $a$  and  $b$ . The curves for the H-waveguides and the rectangular waveguides are similar; the ferrite position for minimum forward loss is the same for both and is independent of  $g/b$ . The position for maximum reverse loss moves to the centre of the waveguide as the ratio  $g/b$  is reduced. Maximum forward-to-reverse ratio occurs when the value of  $g/b$  is such that the positions of the ferrite for minimum forward loss and for maximum reverse loss coincide. The dependence of the forward and reverse losses on the position of the ferrite lamina for various values of the ratio  $a_4/a$ ,  $a_4$  being the width of the bridge. The parameter  $a_4/a$  has little effect on the position of the ferrite for maximum reverse loss and, therefore, the width  $a_4$  can always be made such that  $a_0$  equals Card 2/4

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the distance from the wall to the bridge step (up to point A in Fig.1). In this case, the lamina has direct contact with the waveguide and better cooling is obtained. Also it is easier to fix the ferrite into the waveguide. The effect of asymmetry is discussed and it is concluded that the position of the ferrite corresponding to maximum reverse loss suffers little change for small asymmetry. The frequency characteristic of the "waveguide valve", i.e. the dependence of the forward and reverse losses on frequency, was investigated experimentally. The waveguide dimensions were  $a = 23 \text{ mm}$ ;  $b = 10 \text{ mm}$ ;  $a_4/a = 0.39$ ;  $g/b = 0.43$ . The critical frequency was 1.6 times less than for the corresponding rectangular waveguide. The positions for the ferrite lamina for minimum forward and maximum reverse loss did not quite coincide but the difference was less than in the rectangular guide. The frequency characteristics for a single ferrite lamina are presented graphically. The reverse loss is greater than 27 db and the forward loss is of the order of 1.1 to 1.2 db in the 8000 to 10300 Mc/s band. For lower frequencies, the forward loss increases sharply. To improve the bandwidth, a dielectric lamina was included. The forward loss was then

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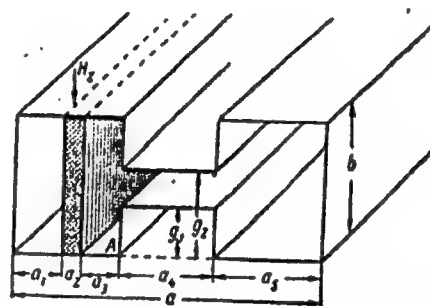
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practically constant at 0.4 db over the whole band and the forward-to-reverse ratio was not worse than 45. There are 7 figures and 6 references: 4 Soviet and 2 non-Soviet.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet  
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SUBMITTED: December 26, 1959

Fig.1.



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9,1300 (1006, 1144, 1331)

AUTHOR: Tereshchenko, A. I.

TITLE: A Waveguide With "Dumbbell" Cross Section <sup>25</sup>

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol. 30, No. 9,  
pp. 1074-1076

TEXT: In the introduction, the author thoroughly discusses the advantages and disadvantages of H-type waveguides. To avoid the disadvantages of this type of waveguide, a compromising solution is suggested which combines the advantages of the H-type waveguide with those of circular and rectangular waveguides. The result of a close analysis of the properties demanded of a waveguide is the "dumbbell" cross section shown in Fig. 1. The shape of this cross section was chosen in such a way that the curvature of the electric field lines changes smoothly from one side of the waveguide to the other. It can easily be shown by physical considerations that this type of waveguide has the advantages of the H-type waveguide (wide range, low resistance, and small dimensions) with little probability of a breakdown between the upper and lower walls at the same time. The author compares a rectangular waveguide (2.3•1.0 cm) with the critical

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A Waveguide With "Dumbbell" Cross Section

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wavelength 4.6 cm, an H-type waveguide with the critical wavelength 6.05 cm, and the "dumbbell" waveguide shown in Fig. 2. The dimensions of this waveguide are:  $2a = 2.3$  cm,  $2b = 1.0$  cm,  $2g = 0.4$  cm, and  $r_A = 0.35$  cm. These data assign the "dumbbell" waveguide a certain intermediate position between the two other types. If the parameters are modified,  $2g$  and  $r_A$  must be changed at the same time. An experimental investigation of the critical wavelength of the "dumbbell" waveguide yielded satisfactory results in consideration of the approximate calculation and the low accuracy of shape of the cross section. There are 2 figures and 5 references: 2 Soviet and 3 US.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet im. A. M. Gor'kogo, Kafedra fiziki sverkhvysokikh chastot  
(Khar'kov State University imeni A. M. Gor'kiy, Chair of High-frequency Physics)

SUBMITTED: March 14, 1960

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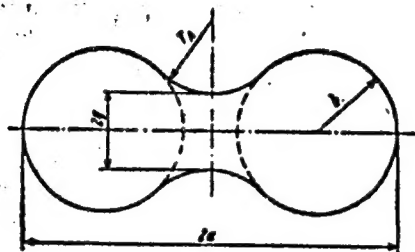


Рис. 2.

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9.1300 (1006,1144,1331)

AUTHORS: Kovtun, N. M. and Tereshchenko, A. I.

TITLE: Calculation of the Propagation Constants in H-Type Waveguides With a Cross-magnetized Ferrite Plate

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol. 30, No. 9, pp. 1077-1080

TEXT: The authors present some results of an investigation of the propagation constants in an H-type waveguide<sup>22</sup> with a cross-magnetized ferrite plate ( $a_2 = 3$  mm) which is directly fastened onto the wall of the waveguide (Fig. 1). The overall width of the waveguide is  $a = 23$ , its overall height  $b = 10$  mm (standard 3-cm waveguide). A formula (1) is given for the propagation constant. Some results obtained by interpolation of (1) are graphically shown in Figs. 2 and 3. The authors studied the dependence of the difference in phase shifts on the antisymmetrical components of the magnetic permeability tensor at different heights of the waveguide bridge, this dependence being equal to that of a rectangular waveguide. The dependence of the maximum difference of phase shift on the bridge

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Calculation of the Propagation Constants in H-Type Waveguides With a Cross-magnetized Fer-rite Plate S/057/60/030/009/013/021 B019/B054

width is linear, i.e., the maximum difference of phase shift with given parameters is the smaller, the longer the critical wavelength. This is explained by the fact that the propagation conditions in these waveguides approach those in the free space. Further, the authors conclude that it is necessary to use waveguides with short critical wavelengths to obtain large phase shifts. There are 3 figures and 9 references: 6 Soviet and 3 US.

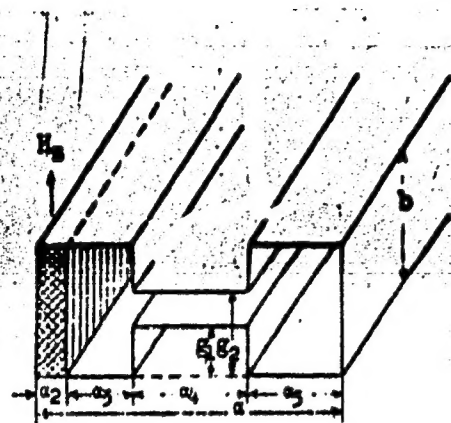
ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet im. A. M. Gor'kogo  
(Khar'kov State University imeni A. M. Gor'kiy)

SUBMITTED: February 8, 1960

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